

IN THE CLAIMS:

Claim 1 (currently amended) A carrier for cell attachment or fixation formed by the following steps:

- (a) forming a fiber by extruding a melted polymer from a nozzle;
- (b) extending the fiber and shaping the extended fiber to form a three-dimensional branch-like non-woven structure; and
- (c) ~~activating~~ treating the surface of the non-woven structure with an activated grafting treatment to have cell impart to the surface an affinity for cells and to facilitate attachment and growth of the cells on the surface.

Claim 2 (original) The carrier of Claim 1 being a single layer sheet.

Claim 3 (original) The carrier of Claim 1, wherein the diameter of the extended fiber is between 1 and 15 micrometers.

Claim 4 (cancelled)

Claim 5 (original) The carrier of Claim 1, wherein the porosity of the non-woven structure is between 40% and 90%.

Claim 6 (original) The carrier of Claim 1, wherein the surface is wrinkled or rough.

Claim 7 (original) The carrier of Claim 1, wherein the fiber is formed by a melt

blowing process.

Claim 8 (original) The carrier of Claim 1, wherein the carrier is circular, square, polygonal, strip or irregular sheet.

Claim 9 (original) The carrier of Claim 1, wherein the thickness of the carrier is between 200 and 600 micrometers.

Claim 10 (currently amended) The carrier of Claim 1, wherein ~~the~~ a carrier is circular and has the diameter of between 1 and 10 mm.

Claim 11 (currently amended) The carrier of Claim 1, wherein the polymer is selected from the group consisting of polyethylene, polypropylene, polyurethane, polyester, polyacrylonitrile, polyvinyl acetate compounding, polyvinyl alcohol, polyactic acid, polyvinylidene chloride, polystyrene, polybutadiene, glass fiber, cellulose, fluorocarbon resin, collagen and ~~the~~ a copolymer thereof.

Claim 12 (cancelled)

Claim 13 (currently amended) The carrier of Claim ~~1~~ 12, wherein the activated grafting treatment comprises ~~the following steps:~~

~~(a) activating the surface of the non-woven structure; and~~

~~(b) grafting a functional group on the activated surface of the non-woven structure.~~

Claim 14 (currently amended) The carrier of Claim 13, wherein the surface of the non-woven structure ~~in step (a)~~ is activated by plasma, corona, ultraviolet, radiation or wet type chemistry.

Claim 15 (currently amended) The carrier of Claim 13, wherein the activated surface of the non-woven structure ~~in step (b)~~ is grafted by exposing the surface of the non-woven structure to a monomer having both an unsaturated functional group and a polar functional group.

Claim 16 (currently amended) The ~~method~~ carrier of Claim 15, wherein the unsaturated functional group is selected from a double bond or a triple bond.

Claim 17 (currently amended) The ~~method~~ carrier of Claim 16, wherein step (c) comprises treating the surface with a compound with the unsaturated functional group ~~is selected from the, said compound being a derivatives~~ derivative of alkyne or alkene.

Claim 18 (currently amended) The ~~method~~ carrier of Claim 15, wherein the polar functional group is ~~selected from~~ amino group, carboxylic group, hydroxyl group or sulfonate.

Claim 19 (currently amended) The ~~method~~ carrier of Claim 18, wherein step (c) comprises treating the surface with a compound with the polar functional group, said compound being ~~is selected from~~ amine, carboxylic acid, alcohol, sulfonate or ~~the a~~

derivative thereof.

Claim 20 (withdrawn) A method for preparing the carrier for cell attachment or fixation, comprising the following steps:

- (a) forming a fiber by extruding a melted polymer from a nozzle;
- (b) extending the fiber and shaping the extended fiber to form a non-woven structure; and
- (c) activating the surface of the non-woven structure to have cell affinity.

Claim 21 (withdrawn) The method of Claim 20 further comprising a step of wrinkling or roughing the surface of the non-woven structure before activating the surface.

Claim 22 (withdrawn) The method of Claim 21, wherein the wrinkled or rough surface of the non-woven structure is formed by a hot pressing step.

Claim 23 (withdrawn) The method of Claim 20, wherein in step (b) the fiber is extended mechanically in a condition of hot air.

Claim 24 (withdrawn) The method of Claim 20, wherein in step (c) the surface of the non-woven structure is activated by an activated grafting treatment.

Claim 25 (new) A composition comprising the carrier of Claim 1 and a culture medium.

Claim 26 (new) A carrier for cell attachment or fixation formed by a process consisting essentially of the following steps:

- (a) forming a fiber by extruding a melted polymer from a nozzle;
- (b) extending the fiber and shaping the extended fiber to form a three-dimensional branch-like non-woven structure; and
- (c) treating the surface of the non-woven structure with an activated grafting treatment to impart to the surface an affinity for cells and to facilitate attachment and growth of the cells on the surface.

Claim 27 (new) The carrier of Claim 26, wherein the treatment of step (c) comprises activation by plasma in an argon/oxygen atmosphere.

Claim 28 (new) The carrier of Claim 13 consisting essentially of the extended fiber and the grafted functional group.